Content available at: https://www.ipinnovative.com/open-access-journals

IP Indian Journal of Clinical and Experimental Dermatology

Journal homepage: www.ijced.org/

Case Report

Ex vivo dermoscopy of extra digital glomus tumour

Geo Celestin Danny[1], Narayanan Baskaran[1], Sukanya G[1]*, Kavya Rajeev[1]

[1] *Dept. of Dermatology Venereology Leprosy, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India*

ARTICLE INFO

Article history:
Received 19-12-2024
Accepted 22-01-2025
Available online 08-02-2025

Keywords:
Extra digital glomus tumour
glomus cells
Dermoscopy

ABSTRACT

Glomus tumour or glomangioma is an uncommon innocuous tumour of the skin. This painful tumour of skin is a vascular hamartoma arising from glomus cells and can be solitary or multiple, digital or extradigital. It is most commonly encountered in females in their 3^{rd} to 5^{th} decade. Glomus tumour can occur anywhere in the body, subungual area being the most favoured site. Extradigital glomus tumour is extremely rare and can involve upper limb, legs or trunk. Pain, pin-point tenderness and cold sensitivity form the diagnostic triad of glomus tumour. The diagnosis of Glomus tumour is made after assessing the clinical features and histopathological findings. Most of the time extradigital glomus tumour are diagnosed incidentally. Ex Vivo Dermoscopy can help in arriving at a diagnosis. Extra digital glomus tumour is often an overlooked entity resulting in clinical uncertainty.

1. Introduction

Glomus tumour first described by Masson in 1924,[1] is a benign neoplasm consisting of glomus cells which often presents as a tender dermal tumour. The diagnosis of an extra digital glomus tumour can be delayed not only because of its atypical location but also due to an absence of tumour-associated cold sensitivity in few lesions. The pathogenesis of formation of the tumour is not yet fully understood. Age, gender, prior history of trauma are few risk factors mentioned in literature.[2] The colour of extradigital glomus tumour varies from blue to red to purple. The size of the tumour rarely exceeds 1 cm. Dermoscopy, a non-invasive imaging tool used for examining skin lesions, has gained significant attention in dermatology for its ability to enhance diagnostic precision. This case report deals with a male who was diagnosed as a case of extra digital glomus tumour who had minimal skin surface changes clinically, but extensive vascularity on ex vivo dermoscopy of the excised specimen.

* *Corresponding author*.
E-mail address: drsukanyamathupal@gmail.com (Sukanya G).

2. Case Presentation

A 38-year-old male came to the outpatient department with complaints of multiple itchy raised lesions over bilateral arms and chest for 1 week with mild pain over a single lesion on the right arm. The patient was diagnosed with miliaria rubra at another hospital with improvement of the itchy lesions, but the painful lesion remained persistent. (Figure 1A&B)

On examination, the patient winced while palpating the lesion on the anterior aspect of the right arm. The patient was subjected to pin test (where precise pressure was applied using the back of pin) and this revealed localised pain over a deep-seated nodule on the anterior aspect of right arm.

Ultrasonography showed a well-defined hypoechoic lesion measuring 0.7 x 0.7 cm in the subcutaneous plane of anterior aspect of right arm seen opening into the skin surface. Internal and peripheral vascularity was noted on colour doppler. (Figure 2A-C)

https://doi.org/10.18231/j.ijced.2025.022

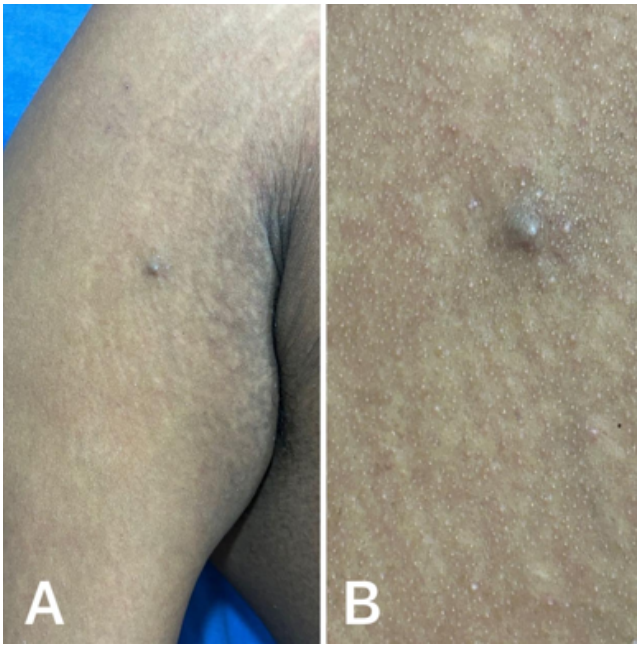

Figure 1: Clinical image showing single skin colouredpustular lesion over the anterior aspect of right arm (1**A**) with **B:** Showing a close up of the same lesion.

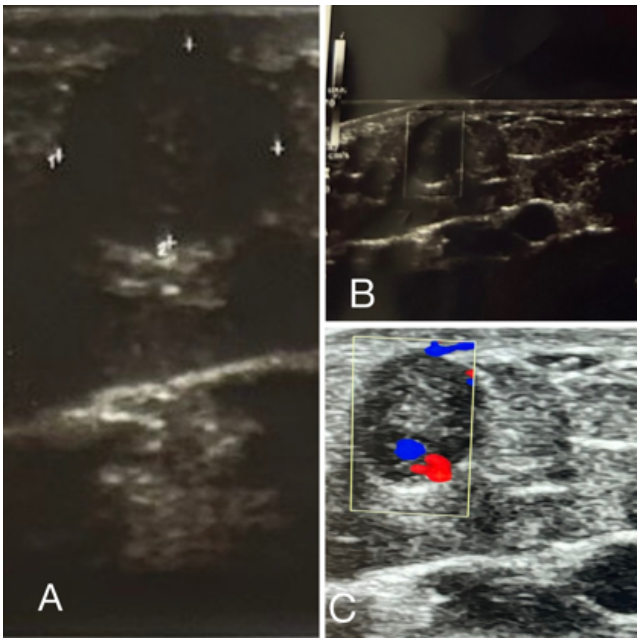

Figure 2: A & **B:** Ultrasonogram showing a well-defined hypoechoic lesion measuring 0.7x0.7cm in the subcutaneous plane (**A** &**B**) with colour doppler image showing internal and peripheral vascularity (**C**).

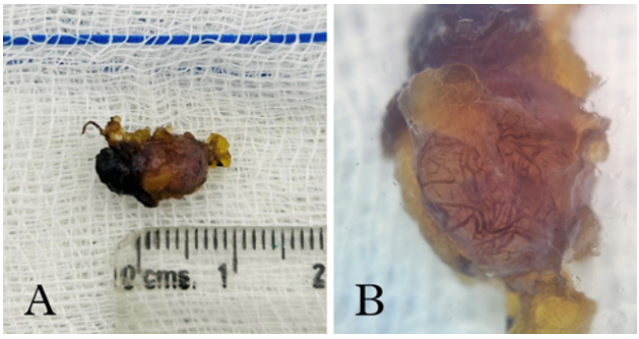

Figure 3: A: Image showing excised specimen measuring 0.7x0.7 cm; **B:** Ex Vivo contact polarised dermoscopy of the specimen showing increased vascularity of the nodule with irregularly arranged blood vessels.

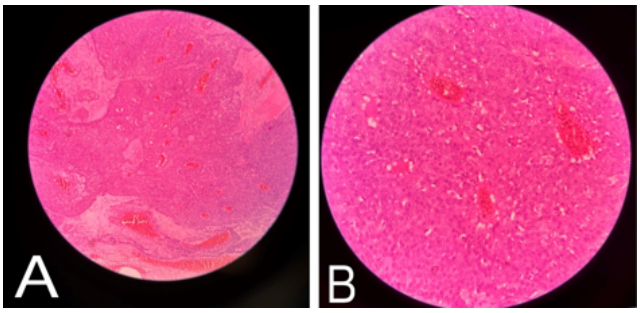

Figure 4: A: Histopathological image of haematoxylin and eosin-stained section of skin in low power view (10x) showing a well circumscribed nodular lesion with multiple vascular channels. High power view (40x); **B:** Reveals multiple round pale staining cells with well-defined margins and round or ovoid nuclei suggestive of glomus cells.

Excision biopsy was done which revealed a vascular dermal nodule extending to subcutis measuring 0.8 x 0.5 cm. Peri operative ex vivo dermoscopy was performed which showed increased vascularity of the nodule with irregularly arranged blood vessels. (Figure 3A&B) Histopathological examination revealed a well circumscribed nodular lesion with irregularly sized vascular lumens filled with red blood cells. (Figure 4 A) Numerous monomorphic round cells with eosinophilic cytoplasm and central punched out nuclei suggestive of glomus cells were seen. (Figure 4B) Based on the above findings, a diagnosis of glomus tumour was made.

3. Discussion

Glomus tumour represents 2 % of all soft tissue tumours and is one of the painful tumours of the skin.[3] It is often misdiagnosed or diagnosed at a later stage; the unbearable pain brings the patient to the clinician. Extra digital glomus tumour presents with pain and pinpoint tenderness. While digital glomus tumour is higher in females, the incidence

of extra digital glomus tumour is 25%-35% with a male predilection.

There are four clinical tests to assess glomus tumour: In Love test, pin point pressure applied to the area where tumour is suspected will result in localised pain. In Modified love test, pin point pressure is applied after tying a tourniquet proximally on the affected limb, resulting in decrease or absence of pain. In Hildreth test, patient will experience pain relief on inflating the cuff around the arm. Increase in the intensity of pain on soaking the site in cold water is termed as cold sensitivity test.[4]

Histopathological examination and dermoscopy can aid in diagnosis. Histopathological examination of an extradigital glomus tumour will show nodular aggregates consisting of sheets of uniform cells with pale or eosinophilic cytoplasm, well defined cell margins and round or ovoid punched out central nuclei appearing glomus cells.

Dermoscopy will show homogeneous white structures with peripheral telangiectasia.[5] In the current report, Ex vivo dermoscopy showed increased vascularity of the nodule and irregularly arranged blood vessels. This was consistent with the ultrasonography of the current case where there was increased peripheral vascularity. There was only one other report by Senhaji et al.,[5] where a specimen dermoscopy showed yellow structureless areas surrounded by linear vessels. In another report by Ajay K Rai et al.,[6] an intraoperative dermoscopy of subungual glomus tumour was done which showed presence of ramified telangiectasias over blue background. Magnetic Resonance Imaging, T2 weighted image can be done, which will show glomus tumour as a high intensity bright lesion. In ultrasound images captured in B mode, glomus tumours can be seen as small solid, hypoechoic, well-defined nodules, more or less homogenous, with regular border, often located in the superficial dermis, with no involvement of the deep layers.[4] The colour vascular study will usually show extensive vascularization.[4]

Differential diagnosis for extra digital glomus tumour includes blue rubber bleb nevus syndrome, infected cyst, lipoma, pyogenic granuloma to name a few. The treatment of choice is complete excision.[7] Sclerotherapy using hypertonic saline and sodium tetradesyl can be considered as an alternative therapy for multiple tumours occurring in the extremities.[7,8]

4. Conclusion

Extra digital glomus tumour is often diagnosed at a later stage owing to its unusual presentation. Dermoscope being a reliable tool of the dermatologist can still be used on the excised specimen to support the clinical diagnosis as ex vivo dermoscopy of lesions especially an extra digital glomus tumour is an under reported entity with very few reports in literature. In such instances where the extradigital glomus tumour was inconspicuous without any evident vascularity, thus masking the diagnosis of a glomus tumour, an ex vivo dermoscopy can help in adding to the diagnosis. Ex vivo dermoscopy is under-reported and this case hopes to highlight the versatility of the dermoscope.

5. Source of Funding

None.

6. Conflict of Interest

None.

References

1. Morey VM, Garg B, Kotwal PP. Glomus tumours of the hand: Review of literature. *J Clin Orthop Trauma*. 2016;7(4):286–91.
2. Gómez-Sánchez ME, Alfageme-Roldán F, Roustán-Gullón G, Segurado-Rodríguez MA. The usefulness of ultrasound imaging in digital and extradigital glomus tumors. *Actas Dermosifiliogr*. 2014;105(7):45–9.
3. Takada T. Relationship between dermoscopic and histopathological findings of extradigital glomus tumors. *Clin Case Rep*. 2024;12(5):e8907. doi:10.1002/ccr3.8907.
4. Cohen PR. Glomus extradigital tumor: a case report of an extradigital glomus tumor on the wrist and comprehensive review of glomus tumors. *Cureus*. 2023;15(5):e38737. doi:10.7759/cureus.38737.
5. Senhaji G, Gallouj S, Jouari O, Lamouaffaq A, Rimani M, Mernissi FZ, et al. Rare tumor in unusual location-glomus tumor of the finger pulp (clinical and dermoscopic features): a case report. *J Med Case Rep*. 2018;12(1):196. doi:10.1186/s13256-018-1721-0.
6. Rai AK. Role of intraoperative dermoscopy in excision of nail unit glomus tumor. *Indian Dermatol Online J*. 2016;7(5):448–50.
7. Temiz G, Şirinoğlu H, Demirel H, Yeşiloğlu N, Sarıcı M, Filinte GT, et al. Extradigital Glomus Tumor Revisited: Painful Subcutaneous Nodules Located in Various Parts of the Body. *Indian J Dermatol*. 2016;61(1):118. doi:10.4103/0019-5154.174080.
8. Mullis WF, Rosato FE, Rosato EF, Butler CJ, Mayer LJ. The glomus tumor. *Surg Gynecol Obstet*. 1972;135(5):705–7.

Author's biography

Geo Celestin Danny, Associate Professor

Narayanan Baskaran, Senior Resident

Sukanya G, Professor

Kavya Rajeev, Junior Resident

Cite this article: Danny GC, Baskaran N, Sukanya G, Rajeev K. Ex vivo dermoscopy of extra digital glomus tumour. *IP Indian J Clin Exp Dermatol* 2025;11(1):139-141.